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B102/B104

STEP

AUTHORS: Kas'yan, V. A., and Utusikova, N. G.

TITLE: Determination of the work function of indium antimonide films

SOURCE: Kishinev. Universitet. Uchenyye zapiski. v. 49, 1961, 112-113

TEXT: The work function of n-type InSb with a donor concentration of 10^{15} cm^{-3} is φ = 4.57 ev as determined by D. Haneman (J. Phys. Chem. Solids, 11, 205, 1959). The work function of n-type InSb films, produced by a method described at p. 69 in this volume, was now determined by measuring the contact potential difference between gold and the film. Anderson's method (Phys. Rev. 47, 958, 1935) was applied. The films investigated had a conductivity of 1 - 15 (ohm·cm)$^{-1}$, $R_{Hall} \approx -50$ cm^3/coul., μ_{Hall}=200-500 cm/v·sec and $n \approx 10^{17}$ cm^{-3}. The samples were degasified at 300°C and the measurements were made at 10^{-7} mm Hg. The Au-InSb contact potential difference was proved to be independent of the film thickness in the range 0.2 - 0.9 μ. For such films φ was found to be 4.42±0.5 ev.

Card 1/2

S/837/61/049/000/009/011
Determination of the work function ... B102/B104

There are 2 figures.

Card 2/2